

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number
WO 2005/067082 A2

(51) International Patent Classification⁷: **H01M 8/00**

(21) International Application Number:
PCT/GB2005/000002

(22) International Filing Date: 5 January 2005 (05.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0400166.5 6 January 2004 (06.01.2004) GB

(71) Applicant (*for all designated States except US*): **IC INNOVATIONS LIMITED [GB/GB]**; Sherfield Building, Imperial College, London SW7 2QA (GB).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **KUCERNAK, Anthony [GB/GB]**; IC Innovations Limited, Sherfield Building, Imperial College, London SW7 2QA (GB). **JIANG, Junhua [CN/US]**; 254 W 31st Street, #2F, 31 St Street, Chicago, IL 60616 (US).

(74) Agents: **ROBERTS, Gwilym, Vaughan et al.**; Kilburn & Strode, 20 Red Lion Street, London WC1R 4PJ (GB).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/067082 A2

(54) Title: NANOPOROUS/MESOPOROUS PALLADIUM CATALYST

(57) Abstract: The present invention provides a catalytic system comprising a catalyst comprising nanoporous or mesoporous palladium and an ion-exchange electrolyte, processes for manufacturing the catalytic system and catalyst, and processes for oxidising or reducing organic and/or inorganic molecules using the catalyst or catalytic system.